

Electrodeposition of Cu on Arbitrary Substrates for CVD Graphene Synthesis

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Abstract

Graphene, a 2-dimensional carbon material, exhibits optical, mechanical, chemical and electrical properties, making it a viable option for a wide range of industrial applications. Despite graphene's potential, challenges in the cost and energy efficiency of the synthetic process as well as quality of synthesized graphene still stand. Amongst the most popular and industrially practical methods used to synthesize graphene, is the employment of Chemical Vapor Deposition (CVD) to grow graphene on a copper substrate/catalyst. Here we explore methods to reduce cost while maintaining high quality graphene synthesis by optimizing the recyclability of copper substrate.